

Kodiak Management Area Commercial Herring Food/Bait Fishery Harvest Strategy, 2007

by
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Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative		fork length	FL
deciliter	dL	Code	AAC	mid-eye-to-fork	MEF
gram	g	all commonly accepted		mid-eye-to-tail-fork	METF
hectare	ha	abbreviations	e.g., Mr., Mrs., AM, PM, etc.	standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.	Mathematics, statistics	
meter	m			<i>all standard mathematical</i>	
milliliter	mL	at	@	<i>signs, symbols and</i>	
millimeter	mm	compass directions:		<i>abbreviations</i>	
		east	E	alternate hypothesis	H _A
		north	N	base of natural logarithm	<i>e</i>
		south	S	catch per unit effort	CPUE
		west	W	coefficient of variation	CV
		copyright	©	common test statistics	(F, t, χ^2 , etc.)
		corporate suffixes:		confidence interval	CI
		Company	Co.	correlation coefficient	
		Corporation	Corp.	(multiple)	R
		Incorporated	Inc.	correlation coefficient	
		Limited	Ltd.	(simple)	r
		District of Columbia	D.C.	covariance	cov
		et alii (and others)	et al.	degree (angular)	°
		et cetera (and so forth)	etc.	degrees of freedom	df
		exempli gratia		expected value	<i>E</i>
		(for example)	e.g.	greater than	>
		Federal Information		greater than or equal to	≥
		Code	FIC	harvest per unit effort	HPUE
		id est (that is)	i.e.	less than	<
		latitude or longitude	lat. or long.	less than or equal to	≤
		monetary symbols		logarithm (natural)	ln
		(U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and		logarithm (specify base)	log ₂ , etc.
		figures): first three		minute (angular)	'
		letters	Jan,...,Dec	not significant	NS
		registered trademark	®	null hypothesis	H ₀
		trademark	™	percent	%
		United States		probability	P
		(adjective)	U.S.	probability of a type I error	
		United States of		(rejection of the null	
		America (noun)	USA	hypothesis when true)	α
		U.S.C.	United States	probability of a type II error	
			Code	(acceptance of the null	
		U.S. state	use two-letter	hypothesis when false)	β
			abbreviations	second (angular)	"
			(e.g., AK, WA)	standard deviation	SD
				standard error	SE
				variance	
				population	Var
				sample	var
Weights and measures (English)					
cubic feet per second	ft ³ /s				
foot	ft				
gallon	gal				
inch	in				
mile	mi				
nautical mile	nmi				
ounce	oz				
pound	lb				
quart	qt				
yard	yd				
Time and temperature					
day	d				
degrees Celsius	°C				
degrees Fahrenheit	°F				
degrees kelvin	K				
hour	h				
minute	min				
second	s				
Physics and chemistry					
all atomic symbols					
alternating current	AC				
ampere	A				
calorie	cal				
direct current	DC				
hertz	Hz				
horsepower	hp				
hydrogen ion activity	pH				
(negative log of)					
parts per million	ppm				
parts per thousand	ppt,				
	‰				
volts	V				
watts	W				

FISHERY MANAGEMENT REPORT NO. 07-54

**KODIAK MANAGEMENT AREA COMMERCIAL HERRING
FOOD/BAIT FISHERY HARVEST STRATEGY, 2007**

by

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ADF&G, Sport Fish Division, Research and Technical Services, 333 Raspberry Road, Anchorage AK 99518 (907)267-2375.

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ABSTRACT

The 2007 Kodiak Pacific herring *Clupea pallasii* food/bait fishery may open, by regulation, on September 1, 2007. The fishery may occur on Kodiak herring stocks in that portion of the Uganik District south of the latitude of Miners Point with a 179 ton (short) guideline harvest level (GHL), the Eastside District with a 106 ton GHL, Uyak District with a 40 ton GHL, and the Alitak District with a 45 ton GHL. The remaining districts are either closed due to the low Kamishak herring biomass estimates, or are areas where the food/bait GHL would be less than 10 tons and, therefore, not manageable. The Alaska Department of Fish and Game is concerned that a competitive fishery, with all nine permit holders participating, could result in an excessive harvest given the low GHLs in the entire Kodiak Management Area. Therefore, in addition to current regulations, stipulations for a potential combine fishery are specified in the harvest strategy.

Key words: Kodiak, herring, *Clupea pallasii*, harvest, food/bait fishery, Kamishak, combine, GHL, KMA

INTRODUCTION

The Kodiak Management Area (KMA) commercial Pacific herring *Clupea pallasii* food/bait fishery has a long history, dating back to 1912 (Gretsch 2001). Early harvests were primarily utilized for food and reduction products (Reid 1971); during the peak years of the reduction fishery (1934 to 1950) the average annual harvest was 31,600 tons (short). Since the early 1960s, the harvest has been utilized mainly as bait for crab and longline fisheries (Figure 1).

During the 1980s and 1990s, the majority of the harvest from the food/bait fishery occurred in the northeast Shelikof Strait of the KMA (Figure 2) with the fishery targeting a mix of Kodiak and Kamishak herring stocks (Johnson et al. *unpublished*). The Kamishak Bay District Herring Management Plan (5 AAC 27.465) outlines criteria for the management of the Kamishak Bay sac roe fishery and provides for a harvest allocation for the Kodiak food/bait fishery, based on the Kamishak spawning biomass. The Kamishak management plan stipulates that when the Kamishak herring stock biomass is below threshold (6,000 tons), then the Kamishak Bay sac roe fishery and the Kodiak food/bait fishery in Shelikof Strait north of the latitude of Miners Point (57° 54.00' N lat.) will remain closed (Figure 3). For the remainder of the KMA, the Kodiak herring food/bait fishery is allowed to occur in districts that have strong spawning stocks. The Kamishak spawning biomass has been below the minimum threshold for a commercial harvest since 1998.

In the mid 1990s, market demands for fresh herring bait were strong, stocks were large enough to allow fairly large guideline harvest levels (GHLs), and up to 8 to 10 vessels participated in the fishery annually. Kodiak and Kamishak stock declines reduced the GHL in 1998. Due to the department's concern for manageability of a competitive fishery with small GHLs on highly aggregated stocks, the KMA herring food/bait fishery was closed for the 1999 and 2000 seasons.

In 2001, the Commercial Fisheries Entry Commission (CFEC) designated the KMA herring food/bait fishery a limited entry fishery. In July 2002, the CFEC issued limited entry permits to nine individuals based on fishery participation in the 1994 to 1998 seasons. Five combination purse seine/gillnet and four trawl permits were issued.

In 2001, due to department concerns of controlling the harvests in areas with relatively small GHLs, permit holders agreed to conduct a combine fishery, with fewer boats participating and the proceeds divided among all permit holders. This allowed the department to provide more liberal fishing time and area during fishing periods. Combine fisheries have occurred during the 2001 through 2006 herring food/bait seasons.

The KMA food/bait fishery is guided by a regulatory management plan (5 AAC 27.535). This harvest strategy will summarize current regulations and the management of the fishery for the 2007 season and specify stipulations for potential competitive or combine fisheries.

2007 FISHERY

Due to the small GHLS available for the Kodiak food/bait fishery and the harvest capabilities of five purse seine vessels and four trawlers competing for the fish, the department is concerned that a competitive fishery with all permit holders participating would be difficult to manage, leading to excessive harvests. The season for this fishery extends from September 1, 2007 through February 28, 2008. The fishery will be opened by emergency order, by district, in order to slow and control the harvests. At least 24 hours advance notice will be given prior to any herring food/bait fishing period. Individual CFEC permit holders must be registered with the department management staff in Kodiak before participating in this fishery.

OPEN DISTRICTS AND GUIDELINE HARVEST LEVELS

The herring food/bait fishery GHLS are based on the preceding herring sac roe fishery season GHLS, with 10% of the 2007 sac roe GHLS, by district, allocated to the 2007 food/bait fishery. The overall guideline harvest level for the 2007 Kodiak herring food/bait fishery is 370 tons (Table 1).

Table 1.-2007 herring food/bait guideline harvest levels (GHLS) by district.

Management District	GHL (tons)
F/B 4 - Uganik	179
F/B 5 - Uyak	40
F/B 7 - Alitak	45
F/B 8 - Eastside	106
Total	370

The 2007 KMA herring food/bait fishery may occur on Kodiak herring stocks in that portion of the Uganik District south of the latitude of Miners Point with a 179 ton GHL (Figure 3), the Uyak District with a 40 ton GHL (Figure 4), the Alitak District with a 45 ton GHL (Figure 5), GHL Eastside District with a 106 ton GHL (Figure 6). The remaining districts will remain closed due to either low Kamishak Bay herring stock abundance or because the GHL for an area would be less than 10 tons and therefore unmanageable.

MARKET CONCERNS

The Kodiak herring food/bait fishery harvest has been utilized mainly as bait for crab and longline fisheries. In recent years, only Kodiak based processing companies have participated in this fishery. From initial discussions with Kodiak Area processors it appears that there is a very limited market for bait in 2007. Any permit holder that intends to participate in the 2007 Kodiak herring food/bait fishery must have a market for any herring they catch during a food/bait fishery.

COMBINE FISHERY

The department will consider a combine fishery under the same guidelines required during previous seasons. All nine permit holders must notify the department that either they support a combine fishery or they will not participate in the 2007 fishery. The department would require that only one catcher vessel be used and that a department management biologist be allowed

onboard the fishing vessel during any fishery. The management biologist would monitor the harvest, close the fishery if the GHF is reached, and collect commercial catch samples for age composition data. Permit holders would be fully responsible for determining which vessel conducts the harvest, all marketing aspects, and all costs associated with harvesting and tendering the herring.

REGULATIONS

Consult the 2006-2007 Statewide Commercial Herring Fishing Regulations (ADF&G 2006) for a complete listing of applicable regulations.

REGISTRATION

Permit holders must be registered with the Alaska Department of Fish and Game (ADF&G) in Kodiak before participating in the food/bait fishery (5 AAC 27.510). Buyers and tender operators must also be registered prior to taking KMA herring (5 AAC 27.540).

SEASON DATES

The fishery may open by emergency order, between September 1, 2007 and February 28, 2008. The duration of fishing periods and areas opened to fishing will be determined by department management biologists and will be based on effort and availability of the herring. At least 24 hours advance notice will be given prior to any herring food/bait fishing period. The fishery will be closed when the GHF has been harvested for each district. News Releases will also be issued that announce the closure of each district.

In the event that CFEC permit holders agree to form a combine for the 2007 food/bait fishery, the fishery may open without restrictions on the duration of fishing periods.

CLOSED WATERS

To protect late season salmon near the head of Kodiak bays, herring may not be taken in the closed waters described in the Chignik and Kodiak Commercial Salmon Fishing Regulations through October 31 (5 AAC 18.350; ADF&G 2005). Closed waters may be reduced by emergency order, prior to October 31, if needed to access the herring.

GEAR RESTRICTIONS

Following are the gear restrictions for purse seine/gillnet and trawl permit holders for the Kodiak food/bait fishery. Only one gear type may be fished at a time for the combination permit holders (5 AAC 27.515).

GEAR CODE

- 01 - Purse Seine
 - Maximum length: 150 fathoms
 - Maximum depth: 1,625 meshes. For Area K there are no web size restrictions.
- 34 - Gillnet
 - Maximum length: 150 fathoms; mesh size: 2-1/8" to 2-1/2".
 - No depth restrictions.
- 07 - Trawl
 - No restrictions

FISH TICKETS

All fish tickets must be completed and sent to the Kodiak Fish and Game office within a week of each landing.

Send to: Alaska Department of Fish and Game
ATTN: Jeff Wadle
211 Mission Road
Kodiak, Alaska 99615

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FIGURES

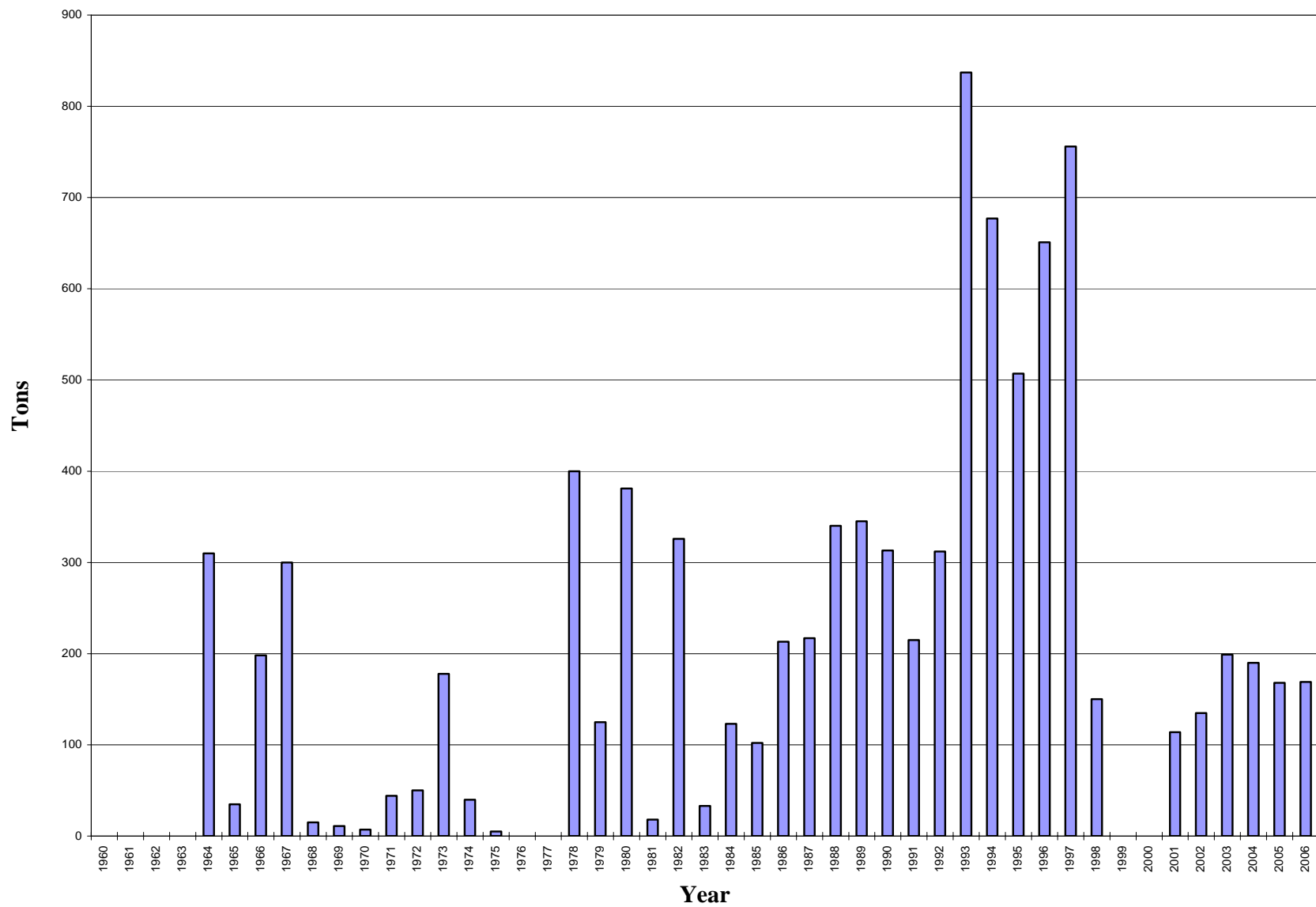


Figure 1.-Herring food/bait fishery harvests 1960 – 2006.

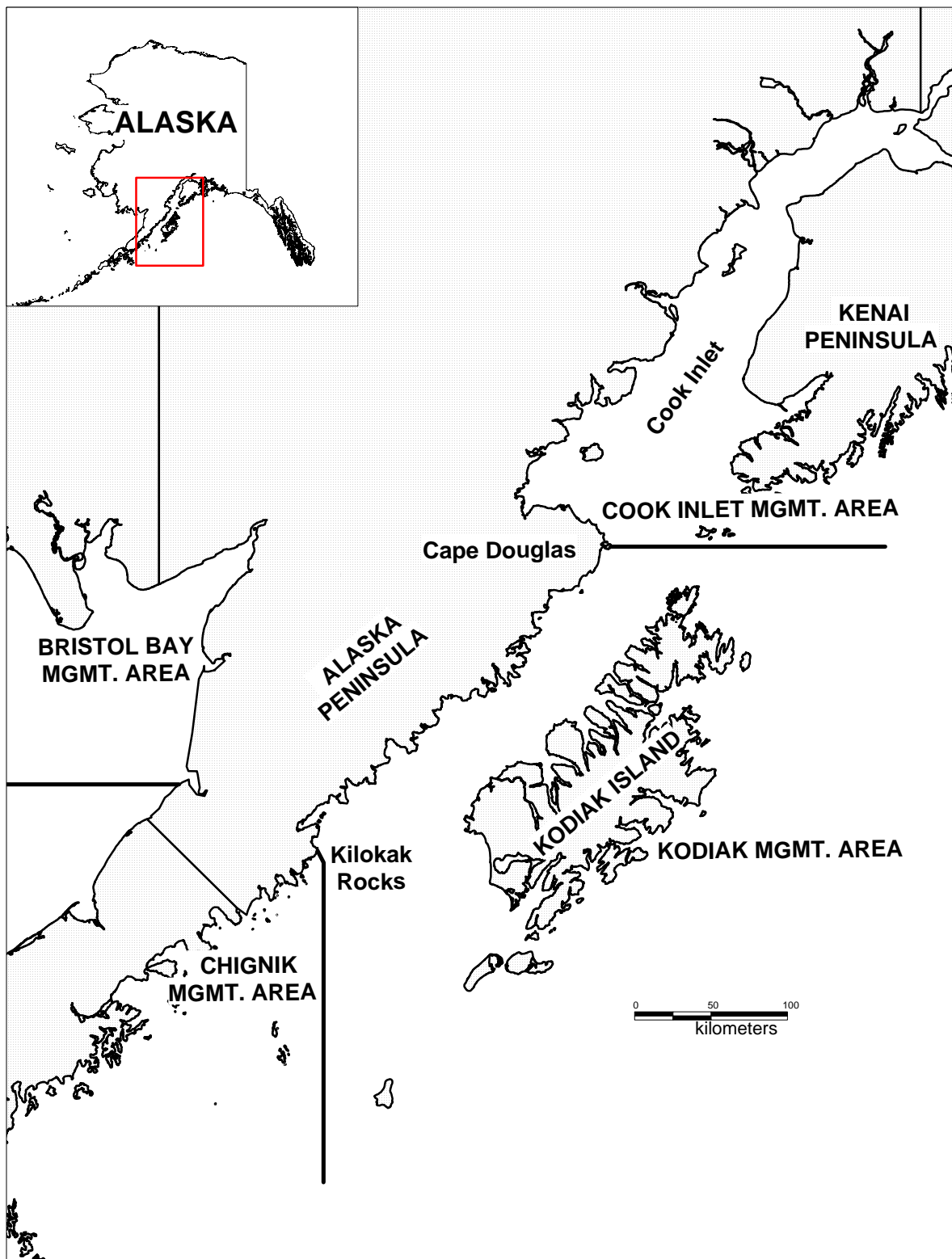


Figure 2.-Map of southwestern Alaska emphasizing the Kodiak Management Area and its relationship to surrounding management areas.

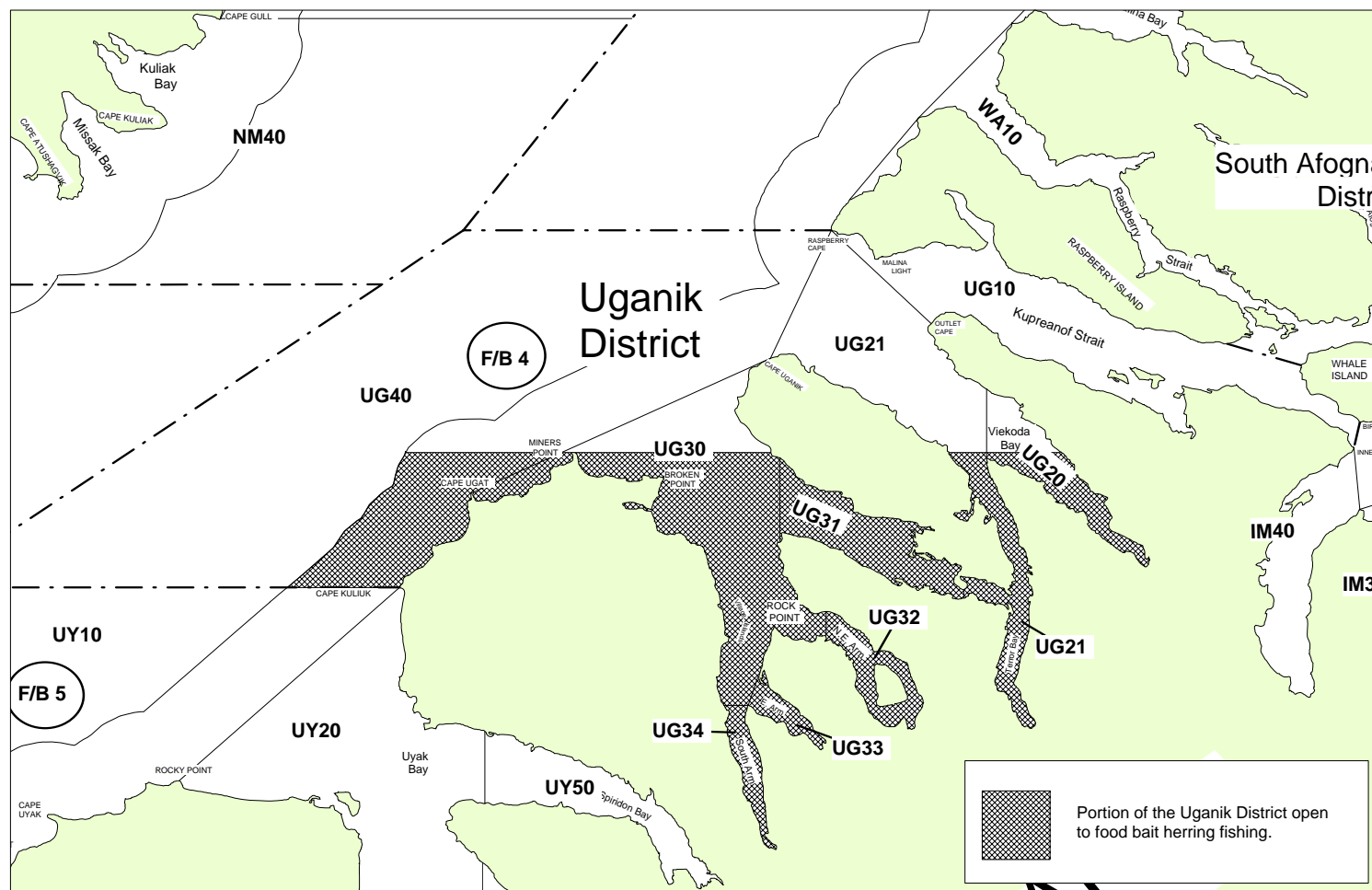


Figure 3.-Map of the North Shelikof Strait and the Uganik Food/Bait District (F/B 4) showing that portion south of the latitude of Miners Point that is open to herring food/bait fishing for the 2007 season.

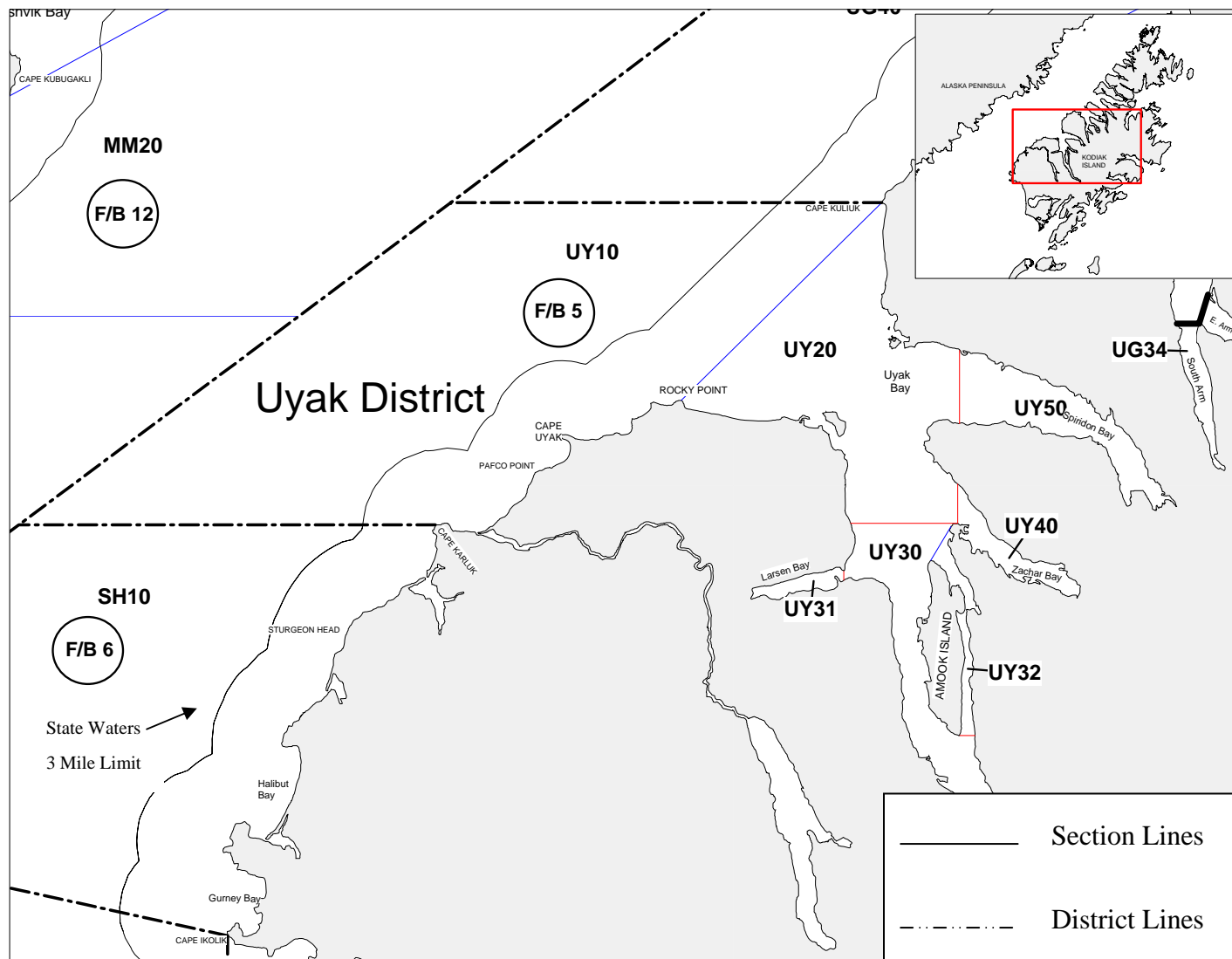


Figure 4.-Map showing the Uyak Food/Bait District (F/B 5) and management sections.

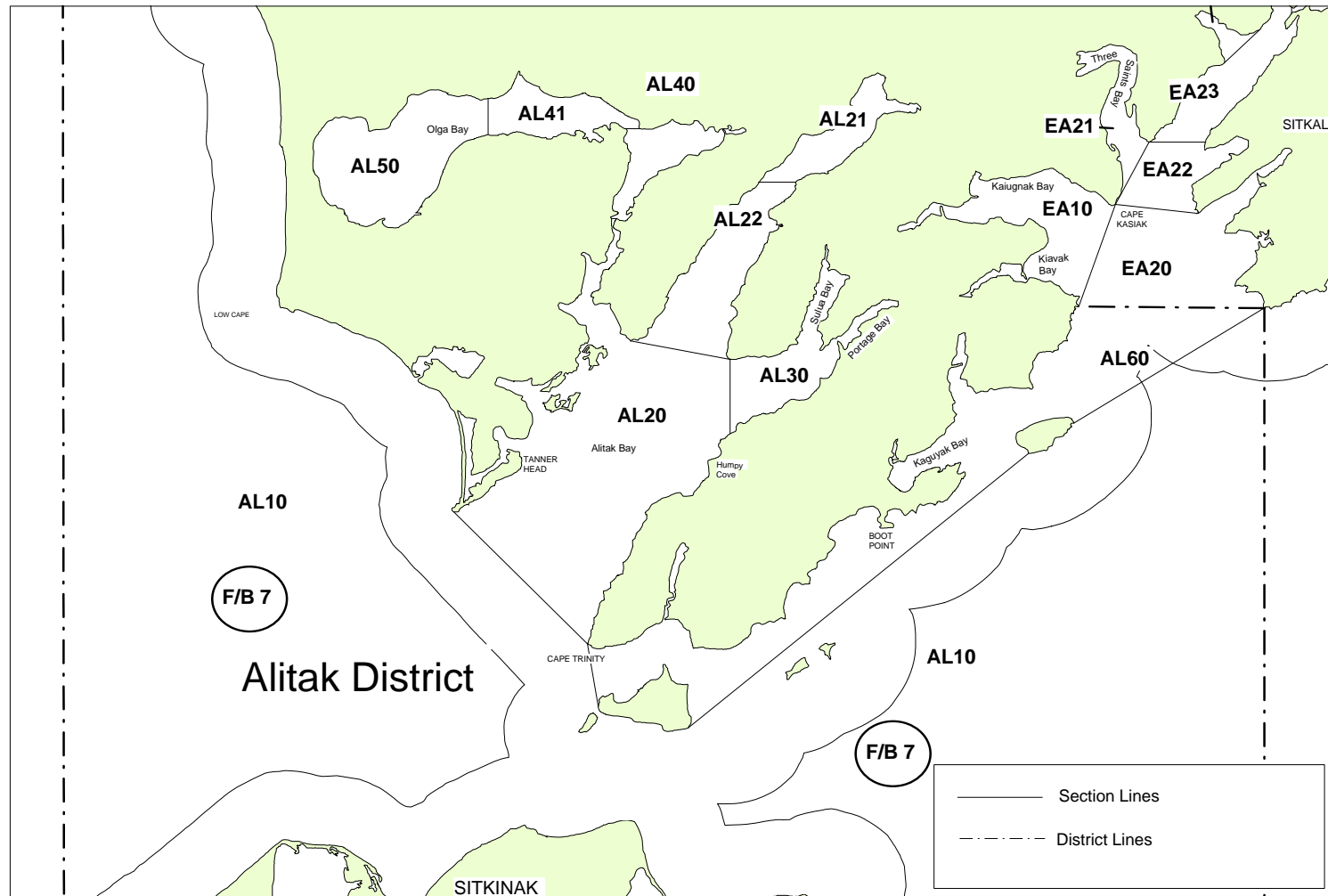


Figure 5.-Map showing the Alitak Food/Bait District (F/B 7) and management sections.

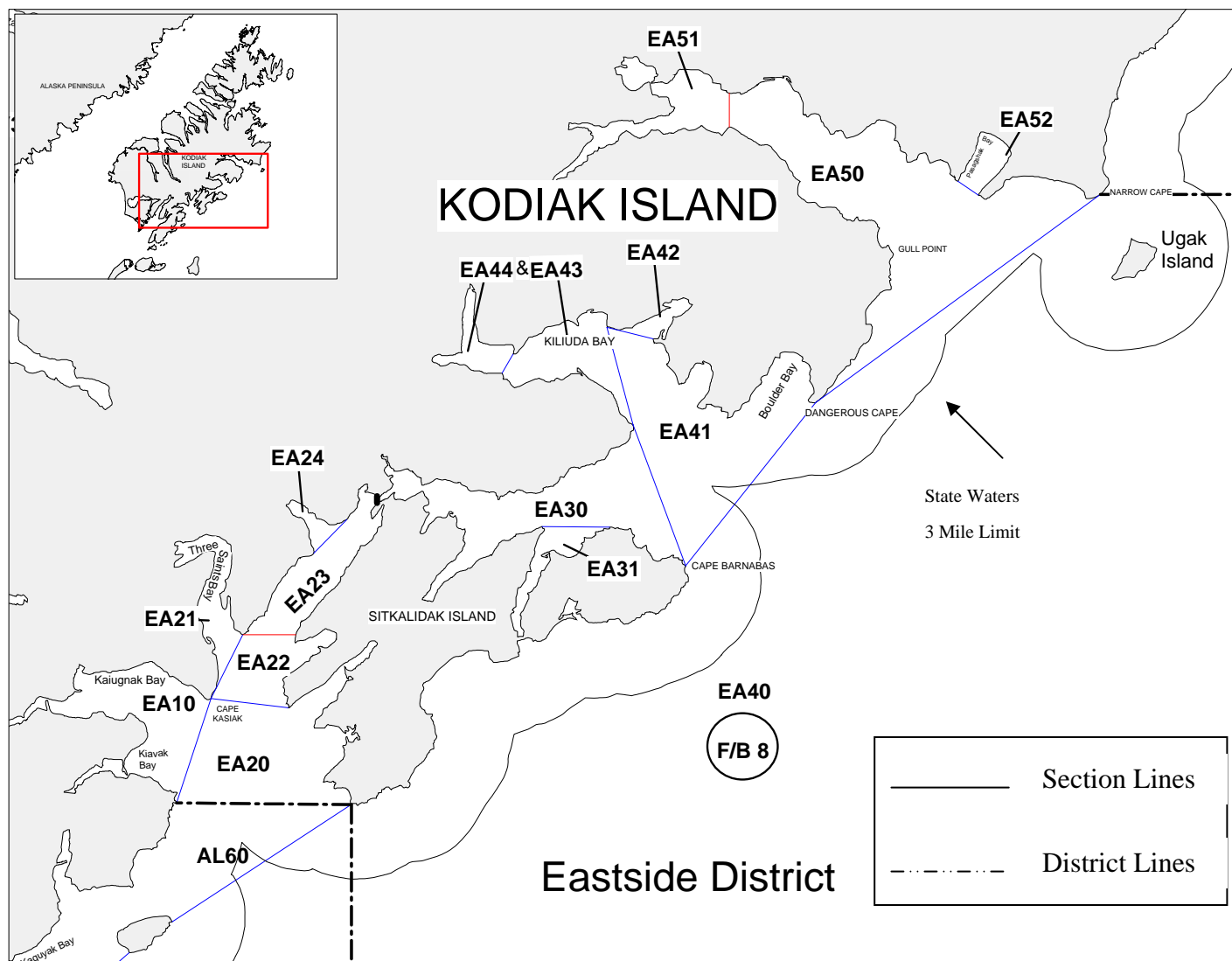


Figure 6.-Map showing the Eastside Food/Bait District (F/B 8) and management sections.